

PATENT COOPERATION TREATY

PCT

15 MAY 2007

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 52949	FOR FURTHER ACTION See item 4 below	
International application No. PCT/IL2005/000357	International filing date (<i>day/month/year</i>) 30 March 2005 (30.03.2005)	Priority date (<i>day/month/year</i>) 30 March 2004 (30.03.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant HI-G-TEK INC.		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 10 sheets, including this cover sheet.
- In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

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|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Date of issuance of this report 17 April 2007 (17.04.2007)
	Authorized officer Simin Baharlou e-mail: pt09.pct@wipo.int

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
SANFORD T. COLB
SANFORD T. COLB & CO.
P.O. BOX 2273
REHOVOT, ISRAEL 76122

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) 23 FEB 2007	
Applicant's or agent's file reference 52949	FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/IL05/00357	International filing date (day/month/year) 30 March 2005 (30.03.2005)
Priority date (day/month/year) 30 March 2004 (30.03.2004)	
International Patent Classification (IPC) or both national classification and IPC IPC: Please See Continuation Sheet USPC: 340/568.1, 568.2, 686.1, 572.9, 539.1, 691.1; 70/38A, 38B	
Applicant HI-G-TEK LTD.	

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Date of completion of this opinion 13 January 2007 (13.01.2007)	Authorized officer Benjamin C. Lee Telephone No. (703) 305-8576
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Form PCT/ISA/237 (cover sheet) (April 2005)

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INTERNATIONAL SEARCHING AUTHORITY

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Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
- ☐ filed together with the international application in electronic form.
- ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V Reasoned statement under Rule 43 *bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-7, 11/(1-7), 12/(1-7)</u>	YES
	Claims <u>8-10, 11/(8-10), 12/(8-10, 11/(8-10))</u>	NO
Inventive step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-45</u>	NO
Industrial applicability (IA)	Claims <u>1-45</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Please See Continuation Sheet

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Supplemental Box
In case the space in any of the preceding boxes is not sufficient.

Continuation of IPC:
G08B 13/12(2006.01),13/14(2006.01),21/00(2006.01),3/00(2006.01),1/08(2006.01);E05B 15/08(2006.01),67/06(2006.01)

V. 2. Citations and Explanations:

I. Claims 1-7, 11/(1-7) and 12/(1-7) lack novelty under PCT Article 33(2) as being anticipated by Chadfield (US pat. #5,587,702).

1) Claim 1: A key-operated remotely monitorable locking assembly comprising:
a key-operated lock including: a lock body including a key operated locking assembly; and a tamper monitorable lockable assembly which is selectably locked to the lock body by operation of said mechanical key operated locking assembly (Figs. 6-9); and a wireless communication circuit located in at least one of said lock body and said lockable assembly for providing a remotely monitorable indication of tampering with said lockable assembly (col. 5, lines 56-62).

2) Claim 2: A key-operated remotely monitorable locking assembly according to claim 1 and: the claimed wherein said wireless communication circuit is also operative for providing a remotely monitorable indication of at least one of locking and unlocking said lockable assembly to said lock body (col. 6, lines 1-8 and col. 5, lines 56-62).

3) Claim 3: A key-operated remotely monitorable locking assembly according to either of claims 1 and 2 and wherein said wireless communication circuit is also operative for providing a remotely monitorable indication of at least one of presence and absence of said lockable assembly within said lock body (col. 6, lines 1-8 and col. 5, lines 56-62).

4) Claim 4: A key operated remotely monitorable locking assembly according any of the preceding claims and wherein said tamper monitorable lockable assembly comprises a flexible sealing wire assembly (col. 4, lines 38-39).

5) Claim 5: A key operated remotely monitorable locking assembly according to any of the preceding claims and wherein said key operated locking assembly is operated by at least one of a mechanical key, an electronic key and a combined mechanical-electronic key (118 of Fig. 6).

6) Claim 6: A key operated remotely monitorable locking assembly according to any of the preceding claims and wherein said tamper monitorable lockable assembly includes at least one conductor disposed about a retaining element, said conductor being monitored by said wireless communication circuit (col. 5, lines 30-37).

7) Claim 7: A key operated remotely monitorable locking assembly according to any of the preceding claims and also comprising at least one monitorable element disposed within said lock body and at least one detector operative to monitor the presence of said monitorable element at a predetermined location within said lock body (126 of Fig. 6).

8) Claim 11/(1-7): A key operated remotely monitorable locking assembly according to any of the preceding claims and wherein said tamper monitorable lockable assembly is entirely removable from said lock body (Figs. 6-7).

9) Claim 12/(1-7): A key operated remotely monitorable locking assembly according to any of claims 1 - 7 and wherein said tamper monitorable lockable assembly is tethered at one side thereof to said lock body (Fig. 1 of Chadfield).

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Supplemental Box

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II. Claims 14/(1-7, 11/(1-7), 12/(1-7)) lack an inventive step under PCT Article 33(3) as being obvious over Chadfield.

1) Claim 14/(1-7, 11/(1-7), 12/(1-7)) A key-operated remotely monitorable locking assembly according to any of the preceding claims, except also comprising a key insertion sensor operative to sense whether a key is operatively inserted in said key operated locking assembly and wherein said wireless communication circuit is also operative for providing a remotely monitorable indication of at least one of key insertion or the absence thereof.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a key insertion sensor and key insertion status reporting feature in a status monitoring system on a key operated lock of Chadfield, Tuttle and Figh et al. so that key insertion or lack thereof status are also positively reported and informed of.

III. Claims 13/(1-7, 11/(1-7), 12/(1-7)) and 14/13/(1-7, 11/(1-7), 12/(1-7)) lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Figh et al. (US pat. #5,392,025).

1) Claim 13/(1-7, 11/(1-7), 12/(1-7)): A key operated remotely monitorable locking assembly according to any of the preceding claims, except: Chadfield does not disclose wherein said wireless communication circuit is operative provide a wireless indication if said tamper monitorable lockable assembly is unlocked from said lock body prior to receipt of wireless authorization by said wireless communication circuit.

While Chadfield discloses authorized unlocking using a mechanical key, Figh et al. teaches the known use of a wireless authorized control of unlocking using remote transmitter 42. It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a wireless authorized remote control such as taught by Figh et al. to provide the optional convenience of remote unlocking, whereby any unlocking prior to receiving the authorized wireless signal constitutes an unauthorized action/tampering that would result in wireless indication.

2) Claim 14/13/(1-7, 11/(1-7), 12/(1-7)): Chadfield and Figh et al. render obvious A key-operated remotely monitorable locking assembly according to any of the preceding claims, plus the consideration of claim 14 above.

IV. Claims 8-9, 11/(8-9), 12/(8-9) and 14/(8-9, 11/(8-9), 12/(8-9)) lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Dawson et al. (US pat. #5,410,301).

1) Regarding claims 8-9 (depends on claim 7), Chadfield does not disclose wherein said monitorable element comprises a magnet and wherein said detector comprises a reed switch.

In the same art, Dawson et al. teaches the known alternative of using a magnet 48 and a reed switch 42 to detect position of element 24 relative to the housing (Fig. 1), as opposed to the use of contact switch 126 in Chadfield. In view of the teachings by Chadfield and Dawson et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a known magnet and reed switch combination taught by Dawson et al. can be used to implement the function of detecting engagement of the element 105 on housing 102 in Chadfield and thus can be chosen for performing the intended function.

2) Claim 11/(8-9): A key operated remotely monitorable locking assembly according to any of the preceding claims and wherein said tamper monitorable lockable assembly is entirely removable from said lock body (Figs. 6-7 of Chadfield).

3) Claim 12/(8-9): A key operated remotely monitorable locking assembly according to any of claims 8-9 and wherein said tamper monitorable lockable assembly is tethered at one side thereof to said lock body (Fig. 1 of Chadfield).

4) Claim 14/(8-9, 11/(8-9), 12/(8-9)): Chadfield and Dawson et al. render obvious A key-operated remotely monitorable locking assembly according to any of the preceding claims, plus the consideration of claim 14 above.

V. Claims 13/(8-9, 11/(8-9)) and 14/13/(8-9, 11/(8-9)) lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Dawson et al. and Figh et al.

1) Claims 13/(8-9, 11/(8-9)): Chadfield and Dawson et al. render obvious all of the claimed subject matter as indicated above, plus the consideration of claim 13 further in view of Figh et al.

2) Claim 14/13/(8-9, 11/(8-9)): Chadfield and Figh et al. render obvious A key-operated remotely monitorable locking assembly according to any of the preceding claims, plus the consideration of claim 14 above.

VI. Claims 10, 11/10, 12/10 and 14/(10, 11/10, 12/10) lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Tuttle (US pat. #5,831,531).

1) Regarding claim 10 (depends on claim 7 or 8), Chadfield does not disclose wherein said monitorable element comprises a magnet said detector comprises an RFID sensor.

In the same art, Tuttle teaches the known alternative of using a magnet and an RFID sensor to detect position of 2 relatively movable elements (Figs. 7 and 7A-B) to provide a wireless indication of the status of such position, as opposed to the use of contact switch 126 in Chadfield. In view of the teachings by Chadfield and Tuttle, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a known magnet and RFID sensor combination taught by Tuttle can be used to implement the function of detecting engagement of the element 105 on housing 102 in Chadfield and thus can be chosen for performing the intended function.

2) Claim 11/10: A key operated remotely monitorable locking assembly according to any of the preceding claims and wherein said tamper monitorable lockable assembly is entirely removable from said lock body (Figs. 6-7 of Chadfield).

3) Claim 12/10: A key operated remotely monitorable locking assembly according to any of claim 10 and wherein said tamper monitorable lockable assembly is tethered at one side thereof to said lock body (Fig. 1 of Chadfield).

4) Claim 14/(10, 11/10, 12/10): Chadfield and Figh et al. render obvious A key-operated remotely monitorable locking

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assembly according to any of the preceding claims, plus the consideration of claim 14 above.

VII. Claims 13/(10, 11/10) and 14/(10, 11/10, 12/(10, 11/10), 13/(10, 11/10, 12/10)) lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Tuttle and Figh et al.

1) Claims 13/(10, 11/10): Chadfield and Tuttle render obvious all of the claimed subject matter as indicated above, plus the consideration of claim 13 further in view of Figh et al.

2) Claim 14/(10, 11/10, 12/10, 13/(10, 11/10, 12/10)): Chadfield, Tuttle and Figh et al. render obvious A key-operated remotely monitorable locking assembly according to any of the preceding claims, plus the consideration of claim 14 above.

VIII. Claims 15-23 lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al. (US pat. #5,570,080).

1) Regarding claims 15 and 17, Chadfield render obvious all of the claimed subject matter as in the consideration of claim 1, except: specifying the claimed shipping container body having an exterior support, and a support sensor for sensing and wirelessly reporting whether the locking assembly is located on said support.

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the lock assembly of Chadfield would have worked just as well on a shipping container body having an enclosure means by mounting thereto. Furthermore, Inoue et al. teaches the known additional use of a support sensor (63 in Figs. 7-8) in a looped tamper sensing assembly as one indication of tampering based on the support sensor status, so that it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include such known support sensor status responsive to tampering of Inoue et al. in Chadfield when the lock assembly is applied to a support surface of a shipping container as an indication of tampering.

2) Regarding claim 16, Chadfield and Inoue render obvious all of the claimed subject matter as in claim 15, plus the consideration of claim 2.

3) Regarding claim 18, Chadfield and Inoue render obvious all of the claimed subject matter as in any of claims 15-17, plus the consideration of claim 14.

4) Regarding claim 19, Chadfield and Inoue render obvious all of the claimed subject matter as in any of claims 15-18, plus the consideration of claim 4.

5) Regarding claim 20, Chadfield and Inoue render obvious all of the claimed subject matter as in any of claims 15-19, and wherein said tamper monitorable lockable assembly comprises a shackle assembly (Fig. 6 of Chadfield).

6) Regarding claim 21, Chadfield and Inoue render obvious all of the claimed subject matter as in any of claims 17-20, plus the consideration of claim 5.

7) Regarding claim 22, Chadfield and Inoue render obvious all of the claimed subject matter as in any of claims 15-21, plus the consideration of claim 6.

8) Regarding claim 23, Chadfield and Inoue render obvious all of the claimed subject matter as in any of claims 15-22, plus the consideration of claim 7.

IX. Claims 27/(15-23) and 29/(15-230 lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al. and Foster et al. (US pat. #6,646,555).

1) Regarding claim 27/(15-23) and 29/(15-23), Chadfield and Inoue render obvious all of the claimed subject matter as in any of claims 15-23, while Forster et al. teaches the known use of a magnetic sensor to detect attachment status (claimed support sensor) (col. 13, lines 30-63). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that if magnetic attachment is used, a magnetic sensor such as taught by Foster et al. can be used to sense the support status in Chadfield and Inoue et al., whereby a reed switch is a well known magnetic sensor for 2-state status indication.

X. Claims 28/(15-23) lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al. and How (US pat. #6,744,366).

1) Regarding claim 28/(15-23), Chadfield and Inoue render obvious all of the claimed subject matter as in any of claims 15-23, while How teaches the known use of an RFID sensor to detect relative positioning/movement of two physical portions (claimed support sensor) (Figs. 1-3 and corresponding disclosure). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a known RFID sensor such as taught by How can be used to sense the support status in Chadfield and Inoue et al.

XI. Claims 24-25- lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al. and Dawson et al.

1) Regarding claims 24-25, Chadfield and Inoue render obvious all of the claimed subject matter as in claim 23, plus the consideration of claims 8-9 further in view of Dawson et al.

XII. Claims 27/(24-25) and 29/(24-25) lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al., Dawson et al. and Foster et al.

1) Regarding claim 27/(24-25) and 29/(24-25), Chadfield, Inoue et al. and Dawson et al. render obvious all of the claimed subject matter as in claims 24-25, plus the consideration of claims 27 and 29 further in view of Foster et al.

XIII. Claim 28/(24-25) lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al., Dawson et al. and How.

1) Regarding claim 28/(24-25), Chadfield, Inoue et al. and Dawson et al. render obvious all of the claimed subject matter as in

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In case the space in any of the preceding boxes is not sufficient.

claims 24-25, plus the consideration of claim 28 further in view of How.

XIV. Claims 26/23 lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al. and Tuttle.

1) Regarding claim 26/23, Chadfield and Inoue render obvious all of the claimed subject matter as in claim 23, plus the consideration of claim 10 further in view of Tuttle.

XV. Claims 27/26/23 and 29/26/23 lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al., Tuttle and Foster et al.

1) Regarding claim 27/26/23 and 29/26/23, Chadfield, Inoue et al. and Tuttle render obvious all of the claimed subject matter as in claim 26/23, plus the consideration of claims 27 and 29 further in view of Foster et al.

XVI. Claims 28/26/23 lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al., Tuttle and How.

1) Regarding claim 28/26/23, Chadfield, Inoue et al. and Tuttle render obvious all of the claimed subject matter as in claim 26/23, plus the consideration of claim 28 further in view of How.

XVII. Claims 26/24 lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al., Dawson et al. and Tuttle.

1) Regarding claim 26/24, Chadfield, Inoue et al. and Dawson et al. render obvious all of the claimed subject matter as in claim 24, plus the consideration of claim 10 further in view of Tuttle.

XVIII. Claims 27/26/24 and 29/26/24 lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al., Dawson et al., Tuttle and Foster et al.

1) Regarding claim 27/26/24 and 29/26/24, Chadfield, Inoue et al., Dawson et al. and Tuttle render obvious all of the claimed subject matter as in claim 26/23, plus the consideration of claims 27 and 29 further in view of Foster et al.

XIX. Claims 28/26/24 lack an inventive step under PCT Article 33(3) as being obvious over Chadfield in view of Inoue et al., Dawson et al., Tuttle and How.

1) Regarding claim 28/26/24, Chadfield, Inoue et al., Dawson et al. and Tuttle render obvious all of the claimed subject matter as in claim 26/24, plus the consideration of claim 28 further in view of How.

XX. Claims 30-37, 39/(30-37), 40/(30-37), 41/(30-37) and 42/(30-37) lack an inventive step under PCT Article 33(3) as being obvious over Figh et al. in view of Chadfield.

1) Regarding claim 30, Figh et al. discloses: A remotely monitorable closure assembly (Fig. 2) comprising: a closure assembly arranged for mounting on a first closure element (20) and including: a closure body (52); a closure pin (56) fixedly mounted onto said closure body; and a remote communication circuit located in said closure body for providing a remotely monitorable indication of tampering with said closure assembly (connection 53 to 32, 38, 66); and a closure pin receiver (58 of Fig. 2; Figs. 6-7) arranged for mounting on a second closure element (24) cooperative with said first closure element, said closure pin receiver having at least a pin securing operative orientation and a pin releasing operative orientation (Figs. 2 and 6-7); except: the claimed wherein the remote communication circuit is a wireless communication circuit.

In the same art, Chadfield teaches the known use of a wireless link (col. 5, lines 56-62). It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to use a wireless link such as taught by Chadfield in a monitoring device such as taught by Figh et al. for convenience due to unnecessary routing of wiring.

2) Claim 31: A remotely monitorable closure assembly according to claim 30 and also comprising a key-operated lock associated with said closure pin receiver and being operative for selectably locking said closure pin receiver in said pin securing operative orientation (Fig. 6 of Figh et al.; Fig. 1 of Chadfield).

3) Claim 32: While Figh et al. shows the enclosure as a door 20 cooperating with a wall 24, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the system of Figh et al. and Chadfield would have worked just as well for enclosures having cooperating doors as claimed.

4) Claims 33-34: While Figh et al. shows the enclosure as a door 20 cooperating with a wall 24, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that the system of Figh et al. and Chadfield would have worked just as well for securable enclosure elements including hatch portions of a tanker which may be secured in a closed mutual orientation by said closure assembly, or output valve access elements of a tanker which may be secured in a closed mutual orientation by said closure assembly, as intended uses in an analogous manner.

5) Claim 35: A remotely monitorable closure assembly according to any of claims 30 - 34 and also comprising a mounting element fixed to said first closure element and wherein said closure body is mounted onto said mounting element (inherent for keeping 52 mounted to 20 in Fig. 2 of Figh et al.).

6) Claim 36: A remotely monitorable closure assembly according to any of claims 30 - 35 and wherein said closure pin includes at least one conductor forming an electrical circuit, said electrical circuit being operative to provide indication of tampering to with said closure assembly to said wireless communication circuit (col. 5, lines 30-32).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a tamper detecting sensing conductor in the closure pin in Figh et al. as taught by Chadfield so that tampering involving the closure pin can be detected and notified.

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7) Claim 37: A remotely monitorable closure assembly according to any of claims 30 - 36 and wherein said closure pin receiver also comprises at least one monitorable element operative to provide said wireless communication circuit with sensed information for monitoring the presence of closure pin at a predetermined location within said closure pin receiver (126 in Fig. 6 and col. 6, lines 1-8 of Chadfield).

It would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include a tamper detecting monitorable element of the closure pin presence at the closure pin receiver in Figh et al. as taught by Chadfield so that tampering involving the closure pin can be detected and notified.

8) Claim 39/(30-37): A remotely monitorable closure assembly according to any of claims 30 - 38 and wherein said wireless communication circuit is also operative for providing a remotely monitorable indication of at least one of said pin securing operative orientation and said pin releasing operative orientation (as considered in claim 37).

9) Claim 40/(30-37): A remotely monitorable closure assembly according to any of claims 30 - 37 and wherein shifting of said closure pin receiver between said pin securing operative orientation and said pin releasing operative orientation is governed by a spring loaded retaining assembly (126, 121 in Fig. 6 of Chadfield; Fig. 6 of Figh et al.).

10) Claim 41/(30-37): A remotely monitorable closure assembly according to any of claims 30 - 37 and wherein shifting of said closure pin receiver between said pin securing operative orientation and said pin releasing operative orientation is governed by a rotation of a mechanical key disposed within said closure pin receiver (118, 121, 126 in Fig. 6 of Chadfield; Fig. 6 of Figh et al.).

11) Claim 42/(30-37): A remotely monitorable closure assembly according to any of claims 30 - 37 and also comprising at least one pin receiver retaining element operative to retain a movable portion of said closure pin receiver within a remainder of said closure pin receiver (126, 121 in Fig. 6 of Chadfield; Fig. 6 of Figh et al.).

XXI. Claims 38, 39/38, 40/(38, 39/38), 41/(38, 39/38) and 42/(38, 39/38, 40/(38, 39/38), 41/(38, 39/38)) lack an inventive step under PCT Article 33(3) as being obvious over Figh et al. in view of Chadfield, and further in view of Dawson et al.

1) Regarding claim 38 (depends on claim 37), Figh et al. and Chadfield does not disclose wherein said monitorable element comprises a magnet.

In the same art, Dawson et al. teaches the known alternative of using a magnet 48 and a reed switch 42 to detect position of element 24 relative to the housing (Fig. 1), as opposed to the use of contact switch 126 in Chadfield. In view of the teachings by Figh et al., Chadfield and Dawson et al., it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that a known magnet and reed switch combination taught by Dawson et al. can be used to implement the function of detecting engagement of the element 105 on housing 102 in Chadfield in the Figh et al. and Chadfield combination, and thus can be chosen for performing the intended function.

2) Claim 39/38: A remotely monitorable closure assembly according to any of claims 30 - 38 and wherein said wireless communication circuit is also operative for providing a remotely monitorable indication of at least one of said pin securing operative orientation and said pin releasing operative orientation (as considered in claim 37).

3) Claim 40/(38, 39/38): A remotely monitorable closure assembly according to any of claims 38 - 39, wherein shifting of said closure pin receiver between said pin securing operative orientation and said pin releasing operative orientation is governed by a spring loaded retaining assembly (126, 121 in Fig. 6 of Chadfield; Fig. 6 of Figh et al.).

4) Claim 41/(38, 39/38): A remotely monitorable closure assembly according to any of claims 38 - 39 and wherein shifting of said closure pin receiver between said pin securing operative orientation and said pin releasing operative orientation is governed by a rotation of a mechanical key disposed within said closure pin receiver (118, 121, 126 in Fig. 6 of Chadfield; Fig. 6 of Figh et al.).

5) Claim 42/(38, 39/38, 40/(38, 39/38), 41/(38, 39/38)): A remotely monitorable closure assembly according to any of claims 38 - 41 and also comprising at least one pin receiver retaining element operative to retain a movable portion of said closure pin receiver within a remainder of said closure pin receiver (126, 121 in Fig. 6 of Chadfield; Fig. 6 of Figh et al.).

XXII. Claims 43-45 lack an inventive step under PCT Article 33(3) as being obvious over Tremblay (US pat. #6,023,218) in view of Little (US pat. #4,782,784).

1) Regarding claim 43:

a) Tremblay teaches a remote visual identification system (Figs. 2, 4-5) comprising a controller (50 in Figs. 4 & 5), a displaceable visual indicator (selectively light flag in Fig. 2 that is removable/displaceable mounted), a mounting element (16, 30), a selectively displaceable visual indicator mounted onto said mounting element (Figs. 2 and 5), a wireless communicator (48) associated with the indicator and operative to receive operational signals from said controller.

b) Little teaches the known use of motorized or selectively displaceable visual indicator (flag) via a displacement assembly operative to selectively displace the visual indicator (see Abstract and figures).

In view of the teachings by Tremblay and Little, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention that instead of selectively lighting up the stationary flag responsive to the wireless remote control signal in Tremblay, a selective flag raising as taught by Little can alternatively or additionally included to provide the intended visual identification signaling based on user preference. Furthermore, while Tremblay discloses that the remote controller controls one visual indicator, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to implement such remote controller to control a plurality of addressable visual indicators for applications where a user is responsible for plurality of identifiable objects, multiple cars in the user's ownership or care, for example.

2) Claim 44: A remote visual identification system according to claim 43 and wherein said displacement assembly comprises: a motor control circuit (Fig. 7 of Little); a motor (20 of Little) controlled by said motor control circuit; and a transmission (structure including 22 of Little) controlled by said motor and being operative to position said visual indicator.

3) Claim 45: A remote visual identification system according to either of claims 43 and 44 wherein said visual indicator is

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

selectably displaceable between an inoperative orientation and a visually indicating orientation by said motor and said transmission (Figs. 4 and 6 of Little).

XXIII. Claims 1-45 meet the criteria set out in PCT Article 33(4), and thus meet industrial applicability because the subject matter claimed can be made or used in industry.